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COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS

U. S. Department of Agriculture  
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Cooperating.

Extension Service, Office of  
Cooperative Extension Work,  
Washington, D. C.

SWEET CLOVER PASTURES 7

Excerpts from 1922 Annual Reports  
of State and County Extension Agents.

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This circular is one of a series issued by the Office of Cooperative Extension Work as a part of its informational service to State and county extension workers. It was compiled at the request of Thomas Bradlee, Director of Extension Service, State College of Agriculture, Burlington, Vermont. The material contained is not released for printed publication.

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COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS

Division of Extension, Office of  
Cooperative Extension Work  
Washington, D. C.

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and other Agricultural Colleges  
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WEEKLY COUNTRY EDITION

Example: From 1901 Annual Report  
of State and County Extension Agents

This country is one of a series of  
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Washington, D. C. The material in  
this is not released for public use.



# SWEET CLOVER PASTURES \*

Excerpts from 1922 Annual Reports  
of State and County Extension Agents.

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## Illinois

A campaign for the use of sweet clover, especially on the alkali soils in the northwest part of the county, resulted in the planting of a large acreage of this legume. The farm bureau cooperative seed house sold more than 300 bushels of sweet clover seed for use in the county. We are finding that this crop stands the midsummer droughts better than other clover crop and yields an abundance of pasture during the fall and early in the following spring. - W. W. Wilson, County Agent, Princeton, Bureau County.

The following extract from a paper read at our last annual meeting by Carlton Trimble, brings out the value of sweet clover as a pasture: "We have a field of 23 acres that was seeded to alfalfa about three years ago. There was too much tight clay in the field and the alfalfa heaved out in the spring. This land had been limed and inoculated. Last spring we seeded the field to oats and sweet clover. The oats was cut off and on the 15th of August, 48 head of cows and 12 head of springing heifers were turned on the pasture. They stayed for 75 days and then had fresh silage to start on. In the 75 days the cows produced 60,992 pounds of milk or 30.5 tons, from 23 acres. At 5 per cent test this would mean

\* No attempt is made to cite all references to sweet clover pastures in this circular. Only selected extracts showing typical methods employed and results secured in a number of States are included. Owing to the difference in terminology used in the various States and to other local conditions, the information herein should be reviewed by the State subject-matter specialist concerned before incorporating any part of it in the extension plans for the State.



3,050 pounds of butterfat, then worth 40 cents per pound, or a total value for butterfat of \$53 per acre. The milk sold at 7.5 cents per quart would have brought a gross return of \$2,237, or almost \$100 per acre. This is an example of low cost production, per unit (quart or pound) and a high acre yield." - C. C. Logan, County Agent, Robinson, Crawford County.

The methods of seeding followed by Will County farmers are, seeding the clover alone and with a nurse crop. Men who desire an early and all-summer pasture seed their sweet clover on well-prepared land in the latter part of March or the first of April, which means as soon as they can get on the land and cultivate it. They sow from 15 to 20 pounds of seed per acre, and at least 20 pounds if the seed is not scarified. Seeding at this time of the year makes it possible to turn the stock on the sweet clover pasture at any time from the middle of May to the first of June, provided weather conditions are right for growing the crop. Great stress is laid on the absolute necessity of having the land in a physical condition suitable to the growing of this crop. Soil that is not absolutely sweet is not going to produce a maximum crop of clover pasture and if it is slightly acid to medium acid, failure will result. Consequently great stress is laid on the necessity of applying limestone before any attempt is made to secure a sweet clover pasture. These facts are put before the people through our monthly publication, through the newspapers, through meetings, by field demonstrations and by farm visits. In the majority of cases a farm visit is made and the soil is tested in the field. At this time advice is given as to the number of tons of limestone to apply to the soil to correct the acidity.

The second method of obtaining sweet clover pasture, as stated in the first part of this article, is that of seeding it with a nurse crop. When sweet clover is seeded with a nurse crop, pasture is not secured until after threshing time. Here, we should expect to receive pasture from the first of June throughout the year, that is well up until or through the month of November and some years into the month of December. The drawback to seeding sweet clover with a nurse crop is that it is not so sure a method as that of seeding it alone. The crop is very apt to come through thin; and a thin sweet clover makes a poor pasture. In order to get the maximum results from sweet clover it is absolutely necessary to have the plants so close together that they make a dense forage without the lower branches spreading out. Where a good thick stand is seeded and obtained on well-limed, and if possible, phosphated land, we will expect it to pasture from 1-1/2 to 3 head per acre; as a rule, it will pasture 2 head easily.

During the first year of pasturing, it is not necessary to keep the pasture down to within 3 to 5 inches of the ground, as the clover does not seed until the second year; but if the producer is to get the best results from the pasture, it will be necessary to put on enough stock to keep it down to within 3 to 5 inches of the ground. When the clover is allowed to grow up it becomes tough and woody and unpalatable to the stock. We have had several cases in this county of farmers' not realizing the amount of stock that this pasture would care for and not putting on the required number, thus letting the pasture get ahead of the stock. In order to get it into good pasture condition again, they attempted to mow the field and in many cases killed quite a number of the plants, thus thinning out their pasture. I have in mind one man who pastured 18 head of cows, 3 sows, and



21 pigs on a 10-acre field of sweet clover with a ravine running through the center of it. Thinking that the field would not pasture the same amount of stock the second year, he put a part of the dry cows and heifers on rented pasture the first part of the year 1922, but found that it was necessary to get this stock back in order to keep the pasture down in the proper condition. A mower was applied in some instances that damaged the crop to a certain extent. This man is only one of the several who thought that sweet clover would not pasture the same number of stock the second year that it would the first. - J. F. Hedgcock, County Agent, Joliet, Will County.

#### Iowa

L. W. Davidson, Fremont Township, had an 11-acre patch of biennial sweet clover put in with oats last year, which shows about two-thirds of a stand this year. He pastured 22 head of milk cows on the field all season and in addition had on 18 extra head for two weeks in late June and early July. This ground had been limed and the seed was inoculated. Mr. Davidson has been working with the crop for three years and is very enthusiastic about the returns he has secured from it. He believes that liming and inoculation will be paid for the first season the crop is pastured. He does not believe in making hay of the crop. - C. H. Obye, Tipton, Cedar County.

#### Kansas

Seventeen men of this county have cooperated in an effort to secure a safe pasture for dairy cattle and sheep and something more permanent as a pasture for swine. These men have been trying sweet clover, which formerly was considered a troublesome weed, and have found it to be very satisfactory and persistent as a pasture crop. Frequently it can be grown successfully where it is difficult or impossible to establish alfalfa; and unlike the latter, it seldom causes bloat. It is one of the first crops to begin growth in the spring; and it can be pastured until the middle of June and mature a good seed crop the same season. Used in conjunction with Sudan grass for summer pasture and rye for fall and winter pasture, sweet clover is destined to fill an important place in the planting program of the Kansas stockman. Weeds and drought have been found to be the worst enemies our farmers have to deal with in growing sweet clover in Meade County. Since weeds rob it of plant food and moisture, the clover should be planted in a clean seed bed, the firmer and cleaner the better. The fact has developed from our trials the past two years that sweet clover makes a better stand where the soil is very firm, and in many instances where it is even difficult to scratch up enough loose soil with which to cover the seed. - C. S. Merydith, County Agent, Meade, Meade County.

#### Missouri

A particularly striking demonstration was conducted on the W. D. Rankin farm near Tarkio. The field contained 160 acres of sweet clover sown in the spring of 1920. In the spring of 1921 a second seeding was made in the same field. The clover was grazed throughout that season with splendid results and the 1920 plants seeded heavily. This spring an early growth of



sweet clover came on from the 1921 plants, and on May 1 Mr. Rankin turned on 508 head of cattle and 400 head of hogs while on a full feed of corn. The cattle had been consuming 210 bushels of corn, 4 loads of alfalfa hay, on good blue grass pasture. When turned on the sweet clover the amount of corn which the cattle would consume dropped to 160 bushels and gradually increased to 175 bushels with no additional hay. At the same time the steers seemed to make as good gain, and there was an abundance of pasture throughout the entire summer. This was due to the fact that the sweet clover which went to seed in 1921 came up this spring and was large enough to make excellent pasture by the time the early clover had gone to seed. Similar feeding experiences have been obtained on other fields. Atchison now produces more sweet clover than any other county in the State, because the clover fills the need of the farmers for a fertilizer and a grazing crop. - J. M. Slaughter, County Agent, Fairfax, Atchison County.

#### Nebraska

"There may be nothing new under the sun," "Brownie" Anderson of Filley, told a group of farmers one day, "but we are forced to change our minds about a lot of things connected with our farms and adopt some of the things that are new to us." A few years ago Mr. Anderson and most of his neighbors considered sweet clover a roadside pest. He heard that cows would not eat it, that it would ruin crops, and that it was scattered broadcast in the middle of the night by some bee culture fanatic. Favorable reports later persuaded Mr. Anderson to try planting a patch of sweet clover. He sowed it in a worn-out weedy pasture. The ground was plowed very shallow and harrowed several times; then the seed was broadcasted at the rate of 15 pounds per acre. It was seeded the middle of July; and as a heavy rain followed the seeding, a perfect stand resulted. There were 7 acres in the field, and in the late summer and fall it made excellent pasture. The following spring the sweet clover was the first green to be seen. "From spring to the middle of July," Mr. Anderson said, "I pastured 22 sheep, 15 cattle, 3 horses, and 4 sows on these 7 acres in order to keep the grass down. Of course, this number of stock was not on the field continually. When the growth was eaten close to the ground I relayed some of the stock to another pasture. It is surprising how all kinds of stock go after the sweet clover pasture. It is one of the best pasture crops I know of." Mr. Anderson says he would sow in July or August or in April. Particular attention, he says, should be given to making a firm seed bed. In fact, he believes that the less work put on a field prepared for sweet clover the better, especially regarding plowing. Never plow deep; kill the weeds and pack the ground. - Boyd Rist, County Agent, Beatrice, Gage County.

#### North Dakota

One season's trial of sweet clover has shown that the farmers want to supply feed for their stock. In the year 1921 only 564 acres had been planted, but after an active campaign by the county agent and extension department at least 50,000 pounds of sweet clover seed were planted, or 5,000 acres. This is an increase of about 900 per cent. Questionnaires



were sent out to 69 cooperators and the following information was received: That 75 per cent of the farmers used a grass-seeder attachment, and with a single exception, got very good stands. When the seed was mixed with the grain and run through the drill there was danger of planting the seed too deep in the ground. The moisture this year was of sufficient quantity to give the seed that was broadcasted a good start; but had the season been dry, sowing the seed in the drill might have had an advantage, provided the nurse crop and clover were seeded rather shallow. Wheat appeared this year to be the best nurse crop because it did not grow so rank or so thick as the oats. The oats, having more leaves, shaded the ground and also stooped to a greater extent, but the stand that was secured with wheat as a nurse crop was very satisfactory.

Close observation of the white and yellow varieties of sweet clover discloses facts that farmers will be interested in during the coming season. The white blossom when seeded with 10 pounds to the acre gives a stand that is very satisfactory for a pasture. Floyd Harddof of Langdon gave the white blossom a real trial during the past season. He had a field of 42 acres, and on this land he has pastured 50 head of livestock. In July there was such a growth that he had to cut it; and 14 tons of hay were put up. The pasture continued good until the killing frosts. The yellow variety did not furnish the feed so late in the season, nor did there appear to be the growth in the yellow variety that was evident in the white. Considering the hay from the fields that have been under observation, and the information furnished by farmers, it appears that the yellow variety makes the better hay, in that the plants do not grow so large. From the same seeding, that is 10 pounds per acre, the quality of the yellow blossom hay is far superior to that of the white. It may be that a 20-pound seeding of the white clover variety would tend to make the growth finer. Frank Jacobson of Osanbrock, who used the yellow variety, produced hay of exceptional quality. - J. W. Haw, County Agent Leader, North Dakota Agricultural College, Agricultural College.

In connection with livestock feeding, the sweet clover crop as a pasture was recommended to those farmers attending feeding school meetings, and to those interested in developing their dairy and beef activities. A number of sweet clover demonstrations were carried on this year to determine whether the cattle would eat sweet clover as pasture. In the fields where part was in tame grass and part in sweet clover, it was found that the sweet clover was eaten as readily as the tame grass. The results of the use of sweet clover pastures are hard to determine. On one farm, however, the farmer fed the same number of livestock on half the acreage when sweet clover was used. He stated that the income from the 11 cows which he milked was one-third greater during the months the cows were on pasture than it was the previous year. In another demonstration, in which a beef herd was pastured on sweet clover, it was found by the owner that the cattle were in a much better condition and that the sweet clover gave practically three times as much pasture as the tame grass. - T. X. Calnan, County Agent, Valley City, Barnes County.



One demonstration was made of the use of sweet clover as a hog pasture. Four acres of yellow sweet clover were used as the demonstration plot. Five brood sows, and 40 pigs 6 to 8 weeks old were placed on the plot in the latter part of May. No commercial feeds other than skim milk were fed to the pigs. The results were that the pigs grew very rapidly and the brood sows made good gains. It was found necessary to cut a crop of hay from the pasture since there was a superabundance of feed. From observation it would appear that from 25 to 30 hogs per acre could be pastured on sweet clover. - Milton Jensen, County Agent, Mohall, Renville County.

Twenty farmers worked with the county agent in carrying on demonstrations with sweet clover as a pasture and hay crop. On the farm belonging to C. H. Prosser of Courtenay a good stand secured last year with small grain furnished pasture this year for approximately 80 head of cattle from May 1 to September 1. A considerable part of this field is slough, so that in reality there were only about 30 acres of sweet clover, making the carrying capacity of the field over 2 head to the acre. The cattle made good gains and looked well. Homer Detra pastured 50 head of cattle on a 20-acre pasture of sweet clover from May 1 to August 15. From August 16 to October 1 he had 10 head of milch cows, 20 head of young cattle, 14 head of horses, and 4 colts in this pasture. There was still plenty of feed and the stock were in excellent condition. Brook Lawrence of Eldridge has 15 acres of sweet clover to supplement a 25-acre prairie pasture. The prairie pasture has been too heavily pastured for the past three years and did not furnish much feed. On this pasture Mr. Lawrence kept 13 milch cows, 2 heifers, 2 calves, and a bull from May 1 to September 1, at the same time turning in 12 head of horses at night. - R. S. Goodhue, County Agent, Jamestown, Stustman County.

The county agent, with the assistance of four farmers, conducted four demonstrations on renovating and establishing sweet clover pastures. Mr. Iverson of Harvey, who came to the county agent requesting information for starting a pasture, was advised to plant biennial sweet clover as early in the spring as possible without a nurse crop. However, the field was not planted until May 7, and on the 15th of June 60 head of cattle were turned on this 40-acre field of newly planted sweet clover. Mr. Iverson is satisfied that he could not plant anything else that would produce more feed for his cattle during the summer than did that pasture of sweet clover. The 40 acres gave more than enough feed for the 60 head of stock. Mr. Kumke carried out the same plan as outlined above except that he did not plant the sweet clover until June 7. However, he secured an abundance of pasture. Both of these farmers are satisfied that early spring planting of the biennial sweet clover will give wonderful pasture results the same year in an ordinary season. Another farmer was advised to carry out the same plan for a hog pasture, and he did so with entire satisfaction to himself. - E. W. Van Coura, County Agent, Passenden, Wells County.



Oklahoma

Sweet clover is gaining in popularity every year. It is being used as pasture for all kinds of livestock but is not generally used for hay. Sweet clover will grow well in any part of the county. Joe Bussart of Driftwood planted 7 acres of biennial sweet clover on February 27, 1922 on land that had been plowed and double-harrowed just before the seed was planted. This field was not pastured until June 1. At that time it was about 2 feet high and was a good stand. Mr. Bussart turned into this field 40 hogs, 25 sheep, 7 cows, 7 calves, and his work horses. This stock was furnished pasture for 60 days, until the clover was eaten to the ground. In the fall at time of frost it was in good growing condition. Mr. Bussart is going to plant 20 acres of sweet clover for pasture this winter. He says, "It beats anything I ever tried for pasture." - G. F. Newton, County Agent, Cherokee, Alfalfa County.

Sweet clover has been planted chiefly for pasture. We carried on a number of experiments on sweet clover, with the purpose of getting more pasture for stock as well as in connection with bee-keeping and soil improvement. In conducting the demonstrations on sweet clover we tried to determine the best time and the best method of planting. There has been a prevailing idea that sweet clover was a weed and should be treated as such. A good many of the men in the county who planted sweet clover merely scattered the seed over the land without any preparation or any cultivation of the soil whatever. The method succeeded in some cases but about 60 per cent of the sweet clover planted in that way was a failure. A good many clover growers advocate planting during the month of January or early in February. Our demonstrations have shown that planting at that time is not a very good practice either. The best demonstration on sweet clover was conducted by W. B. M. Mitchell of Rose community. On March 10 he planted three acres to sweet clover. He prepared his land by using a section harrow with teeth set straight. He weighted the harrow, harrowed and cross-harrowed, planted; and then letting the harrow teeth down flat and taking the weights off, he covered the seed. By March 20 he had a good stand, and on May 15 he turned the stock in. He pastured 10 brood sows, 2 cows, 4 mules, and part of the time, 40 shoats. He did not feed the hogs any extra feed from the first of June to the first of August. In July the sweet clover was beginning to stem so he ran the mower over it. This clover is a good pasture at the present time. - W. Cromwell, Purcell, McClain County.

We are having varying results in this county with sweet clover. It does not always seem to behave the same under the same treatment, but as a general rule we have been fairly successful in getting a good stand. C. M. Lessenger, reporting on his 5-acre tract of sweet clover, said that in February, 1921, he sowed the sweet clover in winter barley and harrowed it lightly. When the barley was cut the clover was about 8 inches high. He pastured 20 head of calves on it the rest of the summer; and in the year following he pastured 25 head of calves throughout the summer and sent them to market in the fall in good condition for beef without having given them any other feed than the sweet clover pasture. Glen Callarman



sowed 7 acres of sweet clover this spring and it furnished pasture for 3 head of horses, 7 head of cattle, and 80 head of hogs. Harvey Miller has both the biennial sweet clover and the annual, known as Hubam. He says that both are fine pasture crops but he gets a little earlier pasture from Hubam. - C. R. Donart, County Agent, Oklahoma City, Oklahoma County.

#### Washington

We have demonstrated the value of legume pasture by furnishing members who would promise to follow directions with enough seed to sow a half acre. Last year several plots of sweet clover were planted. In one instance, in a community where there were no legume pastures, a boy planted one-sixth of an acre of sweet clover. The first season he had 3 months' pasture for 2 sows and 3 calves. This spring he turned on his eight 140-pound shoats, but at the end of 20 days the sweet clover had grown until it was over the hogs' backs. Then he turned in his father's 10 milch cows and 1 bull an hour each day for 10 days, and still he had pasture left for 2 sows with litters of pigs and 2 calves till the first of October. This was without irrigation. During the time the cows were on the pasture their milk flow increased considerably. The father of this club boy says that the sweet clover was by far the most profitable crop per acre the farm produced this year. As a result of this demonstration the father has planted 7 acres of legume pasture. - W. J. Green, County Club Agent, Spokane, Spokane County.

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